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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. 02-1288-A)

In re Application of:	)	
	)	
Tavassoli, et al.	)	Before the Examiner:
	)	TBA
Serial No.: 10/501,755	)	
	)	Art Unit: 1623
Filed: July 1, 2004	)	
	)	Confirmation No. 3100
For: Methods for the Preparation of Alkyl Diaryl	)	
Borinates and Complexed Diarylboronic Acids	)	

TRANSMITTAL LETTER

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

In regard to the above identified application:

1. We are transmitting herewith the attached:
  - a. Form PTO 1449
  - b. Copies of eighty-one (81) Cited References
  - c. Return Receipt Postcard
2. No fees are due at this time.
3. Please charge any additional fees or credit overpayment to Deposit Account No. 13-2490. A duplicate copy of this sheet is enclosed.
4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on this 12<sup>th</sup> day of January, 2007.

Date: Jan. 12, 2007

Respectfully submitted,

Bradley W. Crawford  
Bradley W. Crawford  
Registration No. 50,494

FORM PTO-1449  
(Rev. 2-32)

U.S. Department of Commerce  
Patent and Trademark Office

Atty. Docket No.

02-1288-A

Serial No.

10/501,755

INFORMATION DISCLOSURE  
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(Use several sheets if necessary)



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Tavassoli, et al.

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U.S. PATENT DOCUMENTS

Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date if Appropriate
	*	3,485,864	12/23/1969	Birnbaum, et al.			
	*	4,199,574	04/22/1980	Schaeffer			
	*	4,713,346	12/15/1987	Gallop, et al.			
	*	5,130,302	07/14/1992	Spielvogel, et al.			
	*	5,348,947	09/20/1994	Patel			
	*	5,348,948	09/20/1994	Patel			
	*	5,362,732	11/08/1994	Spielvogel, et al.			
	*	5,789,416	08/04/1998	Lum, et al.			
	*	6,287,713	12/14/2000	Heuer et al.			
	*	6,420,301	07/16/2002	Kristen et al.			
	*	6,734,457	05/11/2004	Yamazaki et al.			
	*	7,019,055	03/28/2006	Wang			

FOREIGN PATENT DOCUMENTS

		Document Number	Date	Country	Class	Subclass	Translation	
							Yes	No
	1	WO 00/056812 A1	09/28/2000	PCT				

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	2	WO 00/075142 A2	12/14/2000	PCT				
	3	WO 02/044184 A3	02/27/2003	PCT				
	4	WO 03/33002 A1	04/24/2003	PCT				
	5	WO03/059916 A2	07/24/2003	PCT				
	6	WO 04/056322 A3	09/16/2004	PCT				
	7	EP 1155698	11/21/2001	EPO				
	8	2001 342192 A2	12/11/2001	Japan				
	9	2002 322007 A2	11/08/2002	Japan				
	10	WO 98/08855	03/05/1998	PCT				
	11	WO 98/12206	03/26/1998	PCT				
	12	EP 0 967 220 A1	12/29/1999	EPO				
	13	DE 198 29 949		Denmark				
	14	FR 2 071 171		France				
	15	2003-501431	1/14/2003	Japan				
	16	EP 1 420 021 A1	5/19/2004	EPO				
	17	WO 00/44387 A1	8/03/2000	EPO				
	18	EP 0 969 531	1/5/2000	EPO				

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	19	419929 B	1/21/2001	Taiwan				
	20	2000-150163	5/30/2000	Japan				
	21	2000-011462	2/25/2000	S. Korea				
	22	2003-229275	8/15/2003	Japan				
	23	DE 1 982 640 3	12/16/1999	Germany				
	24	WO 99/65923	12/23/1999	PCT				
	25	2002-518404	6/25/2002	Japan				
	26	ES 2185358	04/16/2003	Spain				

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).

	27	ALBERTI, A. et al., "Reactions of Triphenylborane with Photoexcited Ketones and with Diazodiarylmethanes," <i>Journal of Organometallic Chemistry</i> , 1985, 297:13-19.
	28	ANDERSON, S. et al., "Materials for organic electroluminescence: aluminum vs. boron," <i>Synthetic Metals</i> , 2000, 111-112:459-463.
	29	CAMPBELL, N. et al., "Tautomerism in the Solid State. Part II.," <i>J. Chem. Soc.</i> , March 1961, 1191-1194.

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**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).**

30	DOROKHOV, V.A. et al., "Boron chelate complexes with some enamiones and diketones containing pyridine moiety and their mutual transformation in solutions," <i>Izvestiya Akademii Nauk, Seriya Khimicheskaya</i> , 1996, 3:710-714.
31	FARFÁN, N. et al., "Through-bond Modulation of N→ B Ring Formation shown by NMR and X-Ray Diffraction Studies of Borate Derivatives of Pyridyl Alcohols," <i>J. Chem. Soc. Perkin Trans 2</i> , 1992, 4:527-532.
32	FLORENCIO, F. et al., "The crystal structure of [bis( $\alpha$ -pyridyl)bis(diphenylboranoxy)]methane," <i>Zeitschrift fuer Kristallographie</i> , 1984, 168:173-178.
33	FRIESE, B. et al., "Constitution of the 1,5-diphenylcarazonato-diphenylboron chelate – a chemical approach," <i>Monatshefte fuer Chemie</i> , 1978, 109(3):711-718.
34	HAWTHORNE, M. et al., "Amine Boranes. I. The Preparation of Pyridine Arylboranes", <i>J. Amer. Chem. Soc.</i> , 1958, 80:4291-4296.
35	HAWTHORNE, M. et al., "Amine Boranes. II. The Preparation of Pyridine Diarylboranes", <i>J. Amer. Chem. Soc.</i> , 1958, 80:4291-4296.
36	HAYNES, R.R. et al., "Aryl Boronic Acids. VIII. Reactions of boronophthalide," <i>Journal of Organic Chemistry</i> , November 1964, 29(11):3229-3233.
37	HOHAUS, E. et al., "Boron chelates and boron metal chelates. I. Boron chelates with chelating agents of they pyridine and quinoline series and their N-oxides," <i>Chemische Berichte</i> , 1969, 102(12):4025-4031.
38	HOHAUS, E. et al., "Mass spectrometric studies of boron chelates of the pyridine and quinoline series and their N-oxides," <i>Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie, Biochemie, Biophysik, Biologie</i> , July/August 1973, 28(7-8):440-445.

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39	HOHAUS, E. et al., "Mass spectrometric investigation of boron chelates, III. Mass spectrometric fragmentation of fluoroboron and phenylboron chelates," <i>Zeitschrift fuer Naturforschung, Teil B: Anorganische Chemie, Organische Chemie</i> , March 1976, 31B(3):324-329.
40	HÖPFL, H. et al., "X-Ray Crystallographic Study of Three (N→B)-Borinates Prepared From 8-Hydroxyquinoline and 2-Hydroxypyridine," <i>Chemistry of Heterocyclic Compounds</i> , 1999, 35(8):912-927.
41	KLIEGEL, W. et al., "Molecular rearrangement of cyclic boron-nitrogen betaines," <i>Materials Science Monographs</i> , 1985, 28B (React. Solids, Pt. B):725-726.
42	LIN, K. et al., "Synthesis and antitumor activity of organyloxy-diarylborane chelates containing quinoline ring," <i>Yiyao Gongye (Pharmaceutical Industry)</i> , 1985, 16(11):500-502.
43	LIU, X. et al., "Structure studies of bis(substituted)-2-(substituted)-8-hydroxyquinolines," <i>Youji Huaxue (Chinese Journal of Organic Chemistry)</i> , August 1991, 11(4):410-415.
44	MICHALOW, W. et al., <i>Izv. Akad. Nauk SSSR SER.KHIM</i> , 1956, 451-453.
45	MOEHRLE, H. et al., "Conformation influences during the dehydrogenation of phenolic Mannich bases," <i>Monatshefte fuer Chemie</i> , 1974, 105(6):1151-1163.
46	MOEHRLE, H. et al., "Real structures of drugs seemingly derived from 1-(8-hydroxyquinol-5-yl)-3-phenylpropane-1,3-dione," <i>Pharmazie</i> , 1985, 40(5):307-311.
47	MOEHRLE, H. et al., "Reaction of functional epoxycarbonyl compounds opposed to hydrogen chloride," <i>Pharmazie</i> , 1985, 40(6):387-393.
48	MOEHRLE, H. et al., "Concurrent reaction of the phenol and the 1,3-dicarbonyl function under Mannich conditions," <i>Pharmazie</i> , 1985, 40(11):767-771.

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----------	-----------------

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49	MOROZOVA, T.L. et al., "Thermal decomposition of organoaluminum and organoboron compounds with intramolecular coordination," <i>Term. Anal. Fazovye Ravnovesiya</i> , 1985, 31-33, Publisher: Permsk. Gos. Univ., Perm, USSR.
50	NEU, R., "The identification of boron in organic bondings," <i>Z. Anal. Chem.</i> , 1960, 176(5):343-346.
51	NEU, R., "Coordination compounds from diphenylboric acid and substances with ring nitrogen as the electron donors," <i>Chemical Abstracts</i> , 1961, 10G - Heterocyclic Compounds:14457.
52	PARTS, L. et al., "Oxidation of Methylboranes at 77 - 170° K," <i>Inorg. Chem.</i> , November 1964, 3(11):1483-1486.
53	PEYTON, J. et al., <i>J. Organomet. Chem.</i> , 1978, 156:101-110.
54	ROTH, H. et al., "Specificity of the TTC reaction. VI. Mechanism of the TTC reaction of pyridinium carbinols. Reaction of N-methylpyridinium-2-carbinol hydroxide with triphenylboron," <i>Archiv der Pharmazie und Berichte der Deutschen Pharmazeutischen Gesellschaft</i> , 1967, 300(1):44-52.
55	SHAN, Z. et al., "Syntheses of aromatic nitrogen-containing heterocyclic derivatives of asymmetric diarylborinic acids," <i>Wuhan Daxue Xuebao, Ziran Kexueban (Journal of Wuhan University, Natural Science Edition)</i> , 1990, 3:67-72.
56	TABUCHI, H. et al., "Synthesis and Anticoccidial Activity of Some Azacyclo Organoborinates," <i>Heterocycles</i> , 2002, 57(7):1319-1326.
57	TABUCHI, H. et al., "Anticoccidial Activity of Some Azacyclo Organoborinates," <i>Heterocycles</i> , 2003, 60(1):177-182.
58	THIERIG, D. et al., "Photometric determination of diphenylborinic acid and its esters with diphenylcarbazone," <i>Zeitschrift fuer Analytische Chemie</i> , 1966, 215(1):24-30.

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59	TITKOV, Y.B., "Luminescence method for determining molybdenum with hydroxyquinoline and sodium tetraphenylborate," <i>Ukrainskii Khimicheskii Zhurnal (Russian Edition)</i> , 1970, 36(6):613-615.
60	TORRES, L. et al., "Rotating-bomb combustion calorimetry and the standard enthalpies of formation of two borinic esters," <i>J. Chem. Thermodynamics</i> , 1994, 26:337-343.
61	TRUJILLO, J. et al., "X-ray crystallographic study of boroxazolidones obtained from L-ornithine, L-methionine, kainic acid and 2,6-pyridinedicarboxylic acid," <i>Journal of Organometallic Chemistry</i> , 1998, 571:21-29.
62	WU, Q. et al., "Synthesis, Structure, and Electroluminescence of BR <sub>2</sub> q (R = Et, Ph, 2-Naphthyl and q = 8-Hydroxyquinolato), <i>Chem. Mater.</i> , 2000, 12:79-83.
63	YU, D. et al., "Proton and boron-11 NMR spectroscopy of diarylboron chelates containing boron-nitrogen coordinate bonds and of triboranes," <i>Fenxi Ceshi Tongbao</i> , 1990, 9(4):5-10.
64	YUAN, G. et al., "Studies on antitumor boron compounds. V. Fluorine- and methoxy-substituted diphenylboron chelates with N,O-bidentate ligands," <i>Youji Huaxue (Chinese Journal of Organic Chemistry)</i> , June 1989, 9(3):226-229.
65	YUAN, G. et al., "Ligand substitution reaction of diarylboron chelates," <i>Wuji Huaxue Xuebao (Journal of Inorganic Chemistry)</i> , Sept. 1990, 6(3):314-318
66	YUAN, G. et al., "Single site transarylation of 2,2'-dimetalized 1,1'-binaphthyl to aminochloroborates and synthesis of 2-binaphthyl boron compounds," <i>Youji Huaxue (Chinese Journal of Organic Chemistry)</i> , April 1996, 16(2):139-144.
67	ZHANG, G. et al., <i>Youji Huaxue (Chinese Journal of Organic Chemistry)</i> , 1982, 6:409-412.
68	ZIMMERMAN, H.K., "Diphenylborinate Esters of 2-pyridylalkanol Derivatives," <i>Texas J. Sci.</i> , June 1963, 15(2):192-199.

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----------	-----------------

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**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc).**

69	RAZIN, A. et al., "DNA Methylation and Gene Function", <i>Science</i> , November 7, 1980, 210:604-610.
70	HEITMAN, J., "On the Origins, Structures and Function of Restriction-Modification Enzymes", <i>Genetic Engineering</i> , 1993, 15:57-108.
71	MAY, M. et al., "Analysis of Bacteriophage Deoxyribonucleic Acid Sequences Methylated by Host- and R-Factor-Controlled Enzymes", <i>Journal of Bacteriology</i> , August 1975, 123(2):768-770.
72	MARINUS, M. et al., "Isolation of Deoxyribonucleic Acid Methylase Mutants of <i>Escherichia coli</i> K-12", <i>Journal of Bacteriology</i> , June 1973, 114(3):1143-1150.
73	PALMER, B. et al., "The <i>dam</i> and <i>dcm</i> Strains of <i>Escherichia coli</i> – a Review", <i>Gene</i> , 143:1-12.
74	KUHNZ, W. et al., "Predicting the Oral Bioavailability of 19-Nortestosterone Progestins <i>In Vivo</i> From Their Metabolic Stability In Human Liver Microsomal Preparations <i>In Vitro</i> ", <i>Drug Metabolism and Disposition</i> , 1998, 26(11):1120-1127.
75	JOST, J. et al., "The Formulation of DNA Methylation Patterns and the Silencing of Genes", <i>Progress in Nucleic Acid Research and Molecular Biology</i> , 1997, 57:217-248.
76	BERDIS, A. et al., "A Cell Cycle-Regulated Adenine DNA Methyltransferase From <i>Caulobacter crescentus</i> Processively Methylates GANTC Sites on Hemimethylated DNA", <i>Proc. Natl. Acad. Sci. USA</i> , March 1998, 95:2874-2879.
77	Thierig, D.; Umland F., "Photometric determination of diphenylborinic acid and its esters with dipehnylcarbazone", <i>Chemical Abstracts</i> , Vol. 64, <b>1966</b> , 11863-11864.
78	Beilstein Institut zur Forderung der Chemischen Wissenschaftern, Database accession no. 759640, XP002239683 abstract, <i>J. Amer. Chem. Soc.</i> , Vol. 80, <b>1958</b> , page 4291.
79	Beilstein Institut zur Forderung der Chemischen Wissenschaftern, Database accession no 762485, XP002239684 abstract, <i>Izv. Akad. Nauk Sssr Ser. Khim</i> , <b>1956</b> , pp. 451-453.

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80	Beilstein Institut zur Forderung der Chemischen Wissenschaftern, Database accession no. 983118, XP002239685 abstract, <i>J. Organomet. Chem.</i> , Vol. 156, <b>1978</b> , pp. 101-110.
81	Haynes, et al., "Arylboronic Acids – (VIII) reactions of boronophthalide", Chemical Abstracts, Vol. 61, pp. 16083-16084.

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